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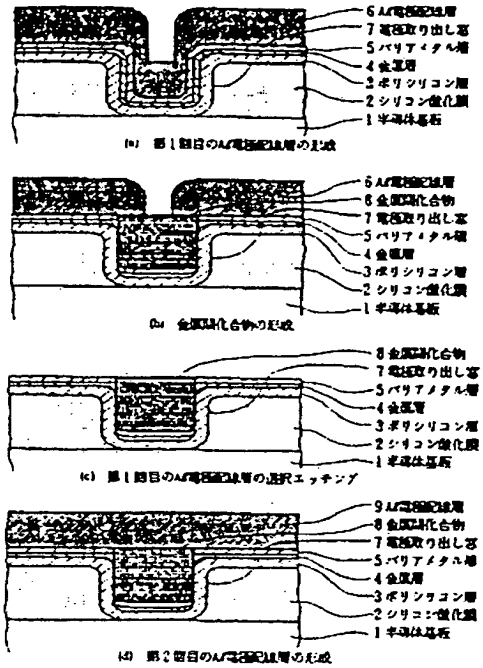
TITLE : MANUFACTURE OF SEMICONDUCTOR DEVICE



ABSTRACT : PURPOSE: To form a flat surface in which the irregular thickness of an aluminum electrode wiring layer or the improper disconnection of wirings can be prevented by forming an intermetallic compound of a barrier metal layer and the aluminum electrode wiring layer in an electrode leading window by annealing to eliminate the stepwise difference from the surface of the barrier metal layer.

CONSTITUTION: A polysilicon layer 3, a metal layer 4, and a barrier metal layer 5 are sequentially laminated in an electrode leading window 7 formed on a silicon oxide film 2 formed on a semiconductor substrate 1. When an annealing is executed, only the perpendicular surface of a barrier metal layer 5 made of TiN is varied in quality to be reacted with the aluminum of an aluminum electrode wiring layer 6 to form an intermetallic compound 8 made of aluminum titanium (AlTi), thereby filling a space surrounded by the sidewall of the layer 3 of the window 7. The first aluminum electrode wiring layer 6 is removed by selective etching to form the continuous surfaces of the layer 5 and the compound 8. A second aluminum electrode wiring layer 9 is eventually formed on the layer 5 and the compound 8 formed flatly.